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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/567,951

02/10/2006

Munetoshi Kawamura

11A3827PCT

7498

3713 7590 07/21/2010
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EXAMINER

ANDERSON, JERRY W

ART UNIT

PAPER NUMBER

1781

MAIL DATE

DELIVERY MODE

07/21/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/567,951	Applicant(s) KAWAMURA, MUNETOSHI	
	Examiner JERRY W. ANDERSON	Art Unit 1781	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 April 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 5-11 and 17-22 is/are pending in the application.
- 4a) Of the above claim(s) 5-11 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>4/22/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 4/21/2010 has been entered. Claims 1-4 and 12-16 cancelled, claims 5-11 withdrawn, claims 17-22 new, claims 17-22 pending.

Claim Objections

2. Applicant is advised that should claim 17 be found allowable, claim 18 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

3. Applicant is advised that should claim 19 be found allowable, claim 20 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing

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one claim to object to the other as being a substantial duplicate of the allowed claim.

See MPEP § 706.03(k).

4. Applicant is advised that should claim 21 be found allowable, claim 22 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 17-22 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. The claims describe a method using three cooling phases, a first cooling phase with specific AC and DC voltages, a second cooling with unspecified AC and DC voltages, and a third cooling phase with no AC or DC voltages applied and a temperature of -20°C. The specification does not provide support for the three-step procedure.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 17-22, are rejected under 35 U.S.C. 103(a) as being unpatentable over Ogawa, K., (JP 62-297677) in view of Ito, A. (JP-2002 -034531)

10. Regarding claims 17, 18, 19, 29, 21, and 22, Ogawa discloses the claimed invention including a shelf in a refrigerator, (¶ 1, pg. 5, claim 2, '677) having a food on the shelf, (¶ 1, pg. 4, '677) having a heat pump to cool the refrigerator/freezer, (¶ 2, pg. 3, '677) applying an AC and DC voltage simultaneously to the food, (¶ 1, pg. 4, claim 5, '677) wherein the DC voltage is negative, (¶ 1, pg. 5, '677) further, the voltages can be applied for a set duration of time by the use of a timer, such that the voltages can be turned off after a set time following the closing of the freezer door. (¶2, pg 5, '677)

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11. Ogawa is silent as to placing the food on the shelf, and cooling the interior of the refrigerator, however one of ordinary skill in the art at the time of the invention would have found it obvious to place the food on the food shelves of Ogawa's refrigerator, to use the heat pump mechanism of the refrigerator/freezer to cool or freeze the food, and to use the disclosed device as intended.

12. However, Ogawa lacks the use of DC voltages that are greater, in a negative sense than -180 V, and AC voltages that are between 180 V to 3500 V, and temperatures of about -20°C.

13. Ito discloses the freezing of fish or meat, (¶ 14, '531) in an electric field, and the use of DC voltages of -200 to -2000 V and AC voltages of 150 V and 800 V. (¶ 42, '531) temperatures used ranged from +10 °C to -40°C. (Drawing 21, '531)

14. Both Ito and Ogawa are engaged in exploring the effect of electrical fields upon the preservation of food by freezing.

15. It would have been obvious to incorporate the temperature ranges of Ito and the voltage ranges of Ito into the process of Ogawa, with a reasonable expectation of success, since the changes would involve minor changes as to the temperature used and the ranges of voltages.

16. As to the process changing the voltages and cooling phases listed in claims 17-22, this consists of applying the specified voltages, disclosed by Ito, and the use of the timer of Ogawa, disclosed above, such that the AC and DC voltages are applied, then turned off and the cooling continued. Thus disclosing the three phases of the instant application.

Response to Amendment

17. The applicant having cancelled claims 1-4 and 12-16, the 35 USC § 112 & 103 rejections of aforesaid claims are withdrawn.

18. The applicant having added new claims 17-22, the 35 USC § 112 1st rejections thereunto are necessitated.

Response to Arguments

19. Applicant's arguments filed 4/21/2010 have been fully considered but they are not persuasive.

20. Applicant states (¶2 pg 8, remarks) that Ogawa does not teach the use of both AC and DC voltages. To reply, Ogawa in claim 5 states "direct current is superimposed with alternating current".(claim 5, '677)

21. Further arguments are moot, in view of the new ground of rejection based upon Ogawa and Ito.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JERRY W. ANDERSON whose telephone number is (571)270-3734. The examiner can normally be reached on 7 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Keith Hendricks can be reached on (571) 272-1401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jwa

/C. SAYALA/

Primary Examiner, Art Unit 1781